76002

Cruise Report: R/V JEAN A bottom sampling, Mayaguez area, Jan.-Feb. 1976

Staff: Rafael W. Rodriguez, Jose R. Muñiz, Nelson Espinell

Ship: R/V JEAN A (65 foot - twin screw)

Time: Entire cruise January 18 - February 26, 1976. Actually engaged in sampling operations for 15 days.

Objective: To determine bottom-sediment distribution, suspended-sediment concentration, and water color, transparency, and salinity in the Mayaguez-Boqueron area.

Equipment: Shipek, Van Veen, and Smith-McIntyre grab samplers, Secchi disc, Forel bottles. Navigation by radar. In shallow areas a 17 foot McKee and a 10-1/2 foot inflatable Zodiac were used. Navigation in small boats was usually by horizontal sextant angles.

Summary: With a 1:20,000 scale, 2 meter contour interval bathymetric map as a guide, 158 bottom samples were collected. Additional strategic samples will be collected following preliminary microscope examination of these.

Sampling areas and Preliminary results (for location of areas see attached map):

Area I - Southern part of Mayaguez Basin. Average depth 350 meters. Dark brown mud turning lighter in color and coarser-grained toward the west.

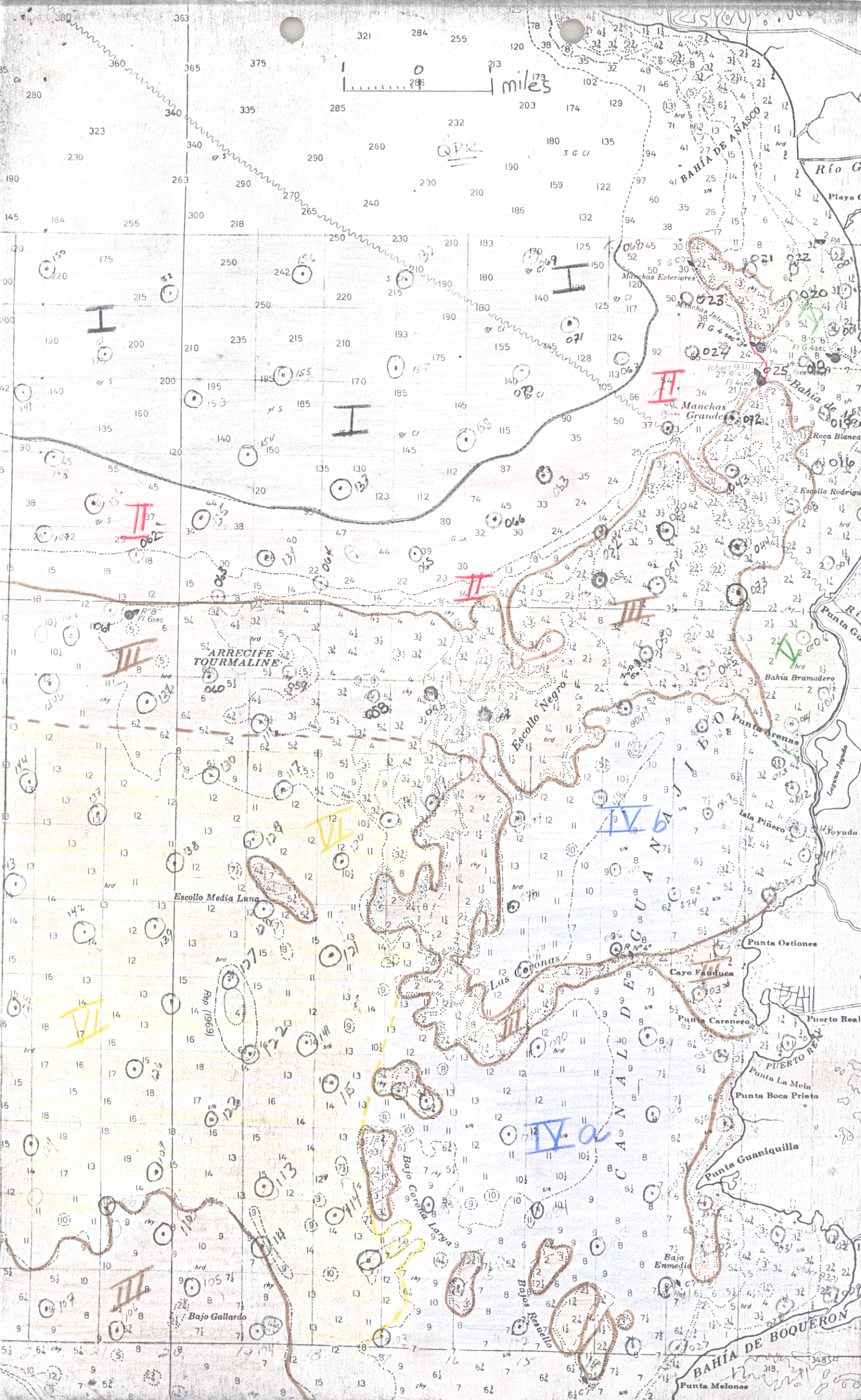
Area II - Slope between Arrecife Tourmaline topographic high and Mayaguez Basin. Depths from 10 to 200 meters. Fine- to medium-grained well-sorted sand. Carbonate content increases westward.

Area III - Topographic highs. Coral and hard bottom environment. Depth ranges from 2 to 20 meters. Medium-grained well-sorted calcareous sand in sand patches; otherwise poorly sorted shell-fragment sand or hard bottom.

Area IV - Lagoon Basins. Average depth 15 meters. IVa: yellowish gray mud. Shell fragments increasing westward. IVb: dark brown mud. Fine- to medium-grained poorly-sorted shell-fragment sand approaching the topographic high of Escollo Negro to the west and Cayo Fanduca to the south. Why is the mud different in the two basins?

Area V - Mayaguez Bay (Pt. Algarrobo to Pt. Guanajibo) and Bahia Bramadero. Depths from 3 meters near shore to 15 meters in Mayaguez harbor. Black to dark gray mud.

Area VI - This area west of the reefs is marked by shallow depressions. Average depth is about 27 meters. Sediments are yellowish-gray mud with abundant shell fragments on the eastern side, calcareous medium-grained sand on the south part, and poorly sorted fine- to coarse-grained sand to the north. Terrigenous fragments are abundant; What is their source so far from land?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Río G
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Bahía de
Manchas Grandes
Roca Blanca
Escollo Rodrigu
Punta Gu
ARRECIFE TOURMALINE
R "8" Fl 6sec
Escollo Negro
R Nº6
Bahía Bramadero
Punta Arenas
Laguna Joyuda
Isla Piñero
Joyuda
CANAL DE MONA
Escollo Media Luna
Las Coronas
R Nº4
Punta Ostiones
Cayo Fanduca
Punta Carenero
Puerto Real
PUERTO REAL
Punta La Mela
Punta Boca Prieta
Punta Guaniquilla
Bajo Corona Larga
Bajo Enmedio
Bajos Retrello
Bajo Gallardo
BAHIA DE BOQUERON
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VII

PUERTO RICO MARINE GEOLOGY PROJECT

Cruise Report: Research Vessel Jean A bottom sampling, offshore southwestern Puerto Rico, January - May 1976.

Staff: Rafael W. Rodriguez (Chief Scientist), José R. Muñiz, Nelson Espinell

Ship: R/V Jean A (65 foot - twin screw)

Time: Ship away from home port 18 January - 26 February and 5 April - 14 May 1976. Operating mode: day-cruises only, weekends off, other science parties using ship for short periods. Actual ship days for our work, 33.

Objective: To determine bottom-sediment distribution, suspended-sediment concentration, water color, transparency, and salinity in the Mayaguez-Boqueron area.

Equipment: Shipek and Van Veen grab samplers, Secchi disc, Forel bottles. Navigation by radar. In shallow areas a 17 foot McKee and a 10-1/2 foot inflatable Zodiac were used. Navigation in small boats was usually by horizontal sextant angles.

5 APR - 14 MAY

Summary: With a 1/20,000 scale, 2 meter contour interval bathymetric chart as a guide, 98 bottom samples were collected. This cruise completes the bottom sampling in the Mayaguez-Boqueron area. A total of 256 bottom samples were collected for this area.

↑ INCLUDES 18 JAN - 26 FEB + 5 APR - 14 MAY